

### **Amendments to the Claims**

#### **Claim 1 (Currently amended)**

1. A system for transmitting digital image signals from a client device to a server device, comprising:
  - means for establishing a connection between one or more client devices and server device;
  - means for optionally making a copy of ~~the~~ an image to free up system resources on ~~the~~ said client device;
  - ~~• means for transferring the image to a client queue if the image cannot be transmitted immediately;~~
  - means for measuring the availability of local client resources including available processor time and means for maintaining historical information and trends of client resources;
  - means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network;
  - means for transferring the image to a client queue wherein said availability means and said status means determine the image cannot be transmitted immediately to the server device;

- means for increasing the size of ~~the~~ said client queue if the client queue becomes full due to the accumulation of images in the queue;
- ~~means for dynamically reducing the size of images in the client queue to either conserve storage space in the client queue or to reduce transmission time between the client and the server~~ means to dynamically reduce the size of the image in the client queue wherein said availability means and said status means are used to estimate the level of reduction necessary such that the modified image can be transmitted from the client device to the server device before the client queue becomes full;
- means for transferring the image from the client queue on the client device to the server device as a digital signal such that a permanent copy of the image is not maintained on the client device wherein said reduction means has reduced the size of the image sufficiently to prevent the client queue from becoming full;
- means for persisting the image from said transfer means on the server device until it is processed or saved whereas the image may be of reduced resolution or quality.

#### **Claim 2 (Original)**

2. A system according to claim 1, wherein the means for increasing the size of the client queue includes an upper limit to prevent the queue from growing beyond a specified size.

#### **Claim 3 (Original)**

3. A system according to claim 1, wherein the means for transferring the signal from the client to the server can include encrypting the information on the client prior to transmission and decrypting the data once it is received by the server.

**Claim 4 (Original)**

4. A system according to claim 1, wherein the means for transferring the image signal from the client to the server can comprise:

- means for transmitting image data from one or more clients to a gateway server, such that the clients consider the gateway server to be a server;
- means for buffering the image data on the gateway server;
- means for transmitting image data from the gateway server to the server, such that the server considers the gateway server to be a client.

**Claim 5 (Original)**

5. A system according to claim 1, wherein the means for reducing the size of an image comprises:

- means for selecting one or more reduction methods to reduce the image size from a plurality of lossless or lossy compression methods;
- means for reducing the current image, or reducing any image in the queue when the queue becomes full;
- means for periodically reducing the size of the images in the queue, using reduction methods when processor resources are available.

**Claim 6 (Original)**

6. A system according to claim 5, wherein the means for selecting one of more reduction methods comprises:

- means for estimating the reduction in image size possible for a specific reduction method;
- means for estimating the cost of this reduction where the cost includes the resources required for reduction as well as the time to reduce the image;
- means for performing the reduction if the cost is allowable and the reduction is considered meaningful;
- means for evaluating other reduction methods if the desired amount of reduction has not been achieved.

**Claim 7 (Original)**

7. A system according to claim 6, wherein the means for determining if the cost is allowable comprises:

- means for checking the current system resources to see if sufficient resources and time are available to reduce the image;
- means for checking historical system resources and trends to estimate future resource availability;
- means for checking the current network parameters such as available bandwidth and throughput;

- means for checking historical network conditions and trends to estimate future network conditions.

**Claim 8 (Original)**

8. A system according to claim 1, wherein the means for transferring the image signal from the client device to the server device comprises:

- means for storing the received image in a server queue or on a networked file system;
- means for increasing the size of the server queue if the server queue becomes full due to the accumulation of images in the queue;
- means for dynamically reducing the size of images in the server queue to either conserve storage space in the server queue or to reduce storage requirements in the image database.

**Claim 9 (Original)**

9. A system according to claim 8, wherein the means for-increasing the size of the server queue includes an upper limit to prevent the queue from growing beyond a specified size.

**Claim 10 (Original)**

10. A system according to claim 8, wherein the means for reducing the size of an image comprises:

- means for selecting one or more reduction methods to reduce the image size from a plurality of lossless or lossy compression methods;
- means for reducing the current image, or reducing any image in the queue when the queue nears or becomes full;
- means for periodically reducing the size of the images in the queue, using lossless compression methods when processor resources are available.

**Claim 11 (Original)**

11. A system according to claim 10, wherein the means for selecting one of more reduction methods comprises:

- means for estimating the reduction in image size possible for a specific reduction method;
- means for estimating the cost of this reduction where the cost includes the resources required for reduction as well as the time to reduce the image;
- means for performing the reduction if the cost is allowable and the reduction is considered meaningful;
- means for evaluating other reduction methods if the desired amount of reduction has not been achieved.

**Claim 12 (Currently amended)**

12. A method for transmitting digital image signals from a client device to a server device, comprising:

- establishing a connection between one or more client devices and server device;
- optionally making a copy of ~~the~~ an image to free up system resources on the client;
- dividing the available network bandwidth between ~~the~~ said client device and said server device into one or more pieces and assigning certain images to be transmitted using these reserved channels;
- ~~transferring the image to a client queue if the image cannot be transmitted immediately;~~
- measuring availability of local client resources including available processor time, and maintaining historical information and trends of client resources;
- measuring the status and performance of the network connecting the client device and server device, and maintaining historical information and trends of the network;
- transferring the image to a client queue if the image cannot be transmitted immediately wherein said availability measurements and said status measurements determine the image cannot be transmitted immediately to the server device;
- increasing the size of ~~the~~ said client queue if the client queue becomes full due to the accumulation of images in the queue;
- ~~dynamically reducing the size of images in the client queue to either conserve storage space in the client queue or to reduce transmission time between the client and the server~~ dynamically reducing the size of the image in the client queue wherein said availability measurements and said status measurements are

used to estimate the level of reduction necessary such that the modified image can be transmitted from the client device to the server device before the client queue becomes full;

- transferring the image from the client queue on the client device to the server device as a digital signal such that a permanent copy of the image is not maintained on the client device wherein said dynamic reduction has reduced the size of the image sufficiently to prevent the client queue from becoming full;
- persisting the image from said transfer on the server device until it is processed or saved whereas the image may be of reduced resolution or quality.

#### **Claim 13 (Original)**

13. A method according to claim 12, wherein the step of reserving network bandwidth comprising:

- specifying the mapping of image type to a reserved piece of network bandwidth;
- using any remaining, unreserved network bandwidth for images that do not have any defined mapping;
- allocating a separate queue for each piece of network bandwidth or allocating elements from a single queue;
- identifying the type of image and routing this image to the appropriate piece of network bandwidth or queue.

#### **Claim 14 (Currently amended)**



14. A method for transmitting volatile real-time digital image signals from a client device to a server device, comprising:

- transferring ~~the a~~ volatile image to a client queue if the image cannot be transmitted immediately to the server device;
- increasing the size of the client queue if the client queue becomes full due to the accumulation of images in the queue;
- ~~reducing the size of the volatile images in the client queue to either prevent images from being discarded from the queue or to reduce transmission time between the client and server dynamically;~~ dynamically reducing the size of the image in said client queue such that the estimated level of reduction is determined by examining the available processor time on the client device as well as examining the available network bandwidth between the client device and server device wherein the modified image can be transmitted from the client device to the server device before the client queue becomes full;
- transferring the volatile image from the client queue on the client device to the server device as a digital signal wherein said image reduction has reduced the size of the image sufficiently to prevent the client queue from becoming full.

**Claim 15 (Original)**

15. A method according to claim 14, wherein the step of increasing the size of the client queue includes an upper limit to prevent the queue from growing beyond a specified size.

**Claim 16 (Original)**

16. A method according to claim 14, wherein the step of preventing images from being discarded by reducing the size of said images comprises:

- selecting one or more reduction methods to reduce the image size from a plurality of lossless or lossy compression methods;
- reducing the current image, or reducing any image in the queue when the queue becomes full;
- periodically reducing the size of the images in the queue, using reduction methods when processor resources are available.

**Claim 17 (Original)**

17. A method according to claim 16, wherein the step of selecting one of more reduction methods comprises:

- estimating the reduction in image size possible for a specific reduction method;
- estimating the cost of this reduction where the cost includes the resources required for reduction as well as the time to reduce the image;
- performing the reduction if the cost is allowable and the reduction is considered meaningful;
- evaluating other reduction methods if the desired amount of reduction has not been achieved.

**Claim 18 (Original)**

18. A method according to claim 17, wherein the step of determining if the cost is allowable comprises:

- checking the current system resources to see if sufficient resources and time are available to reduce the image;
- checking historical system resources and trends to estimate future resource availability;
- checking the current network parameters such as available bandwidth and throughput;
- checking historical network conditions and trends to estimate future network conditions.